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INAUGURAL ESSAY
ON
ECLAMPSIA

ON

ECLAMPSIA

OR

FOR THE DEGREE OF DOCTOR OF PHYSICK:

Submitted to the consideration

OF

THE HONOURABLE ROBERT SMITH, PROVOST.

AND OF THE REGENTS

OF THE UNIVERSITY OF MARYLAND.

BY

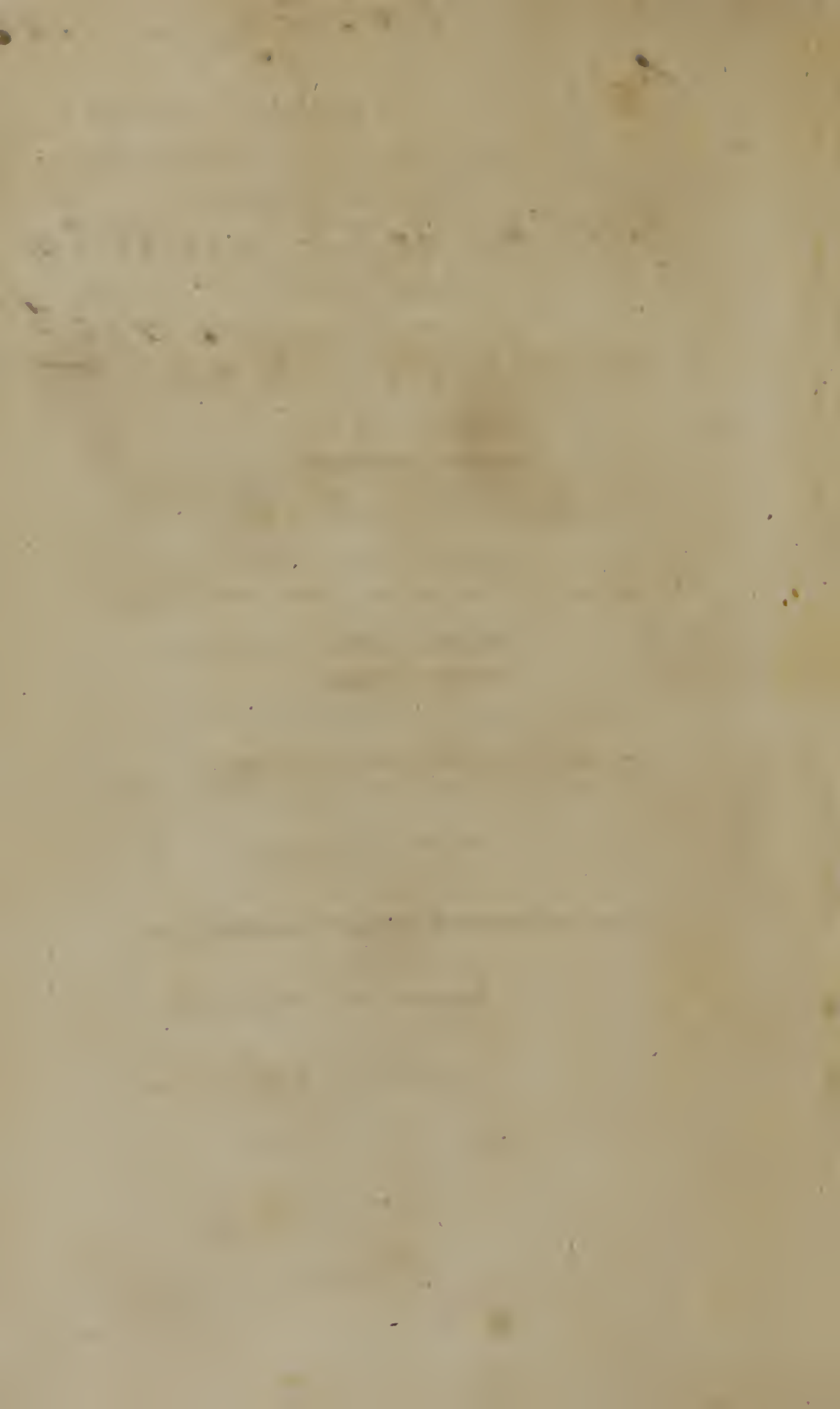
JAMES COUDON.

Of Elkton, Maryland.

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TO

GEORGE E. MITCHELL, M. D.

OF ELKTON, MARYLAND,

Colonel of Artillery in the Army of the United States

This Inaugural Dissertation is most respectfully

DEDICATED,

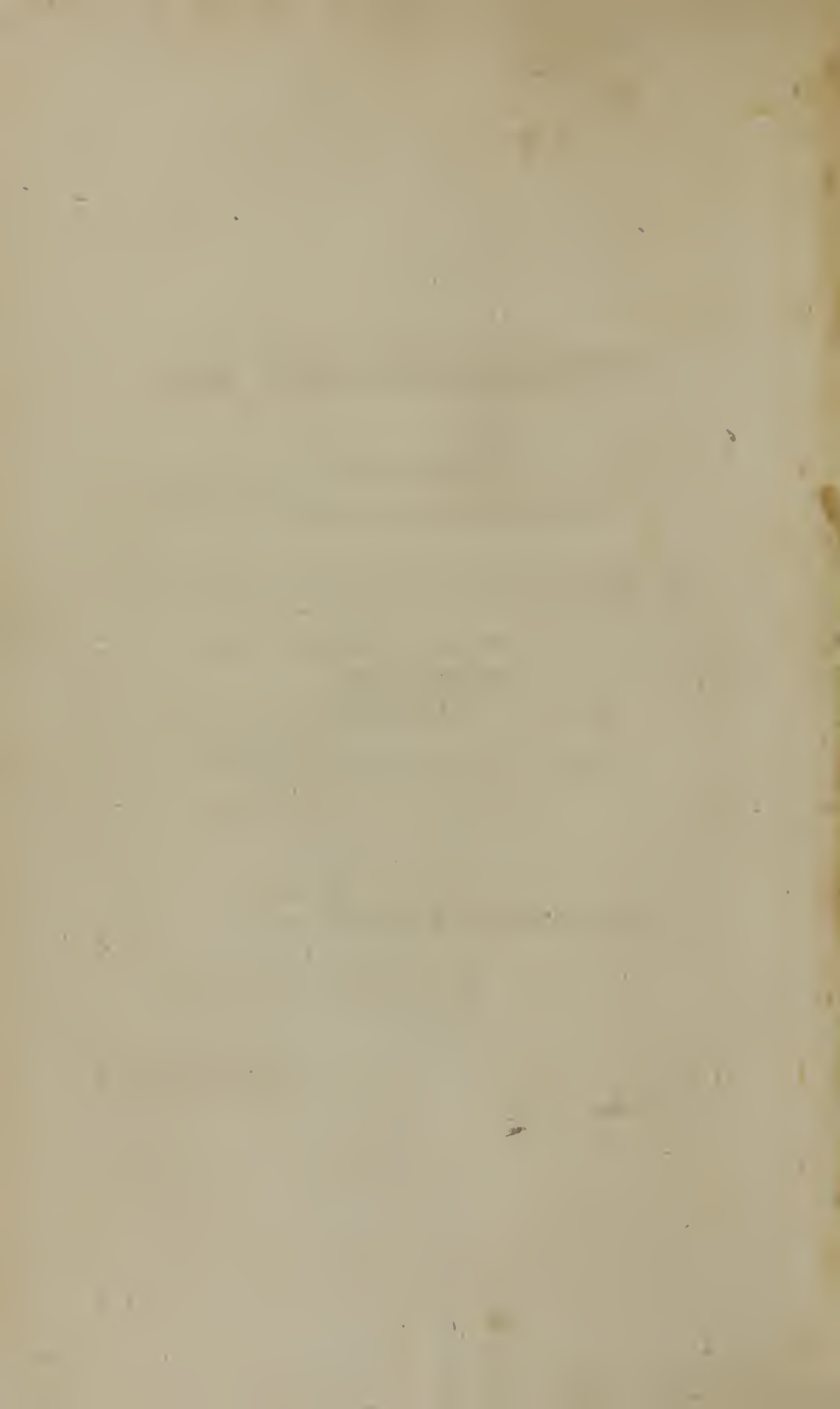
AS A SMALL TRIBUTE OF GRATITUDE AND RESPECT

DUE TO HIM

For the instruction and polite attention

Bestowed on his former pupil,

THE AUTHOR.



TO

RICHARD W. HALL, M. D.

ADJUNCT PROFESSOR OF MIDWIFERY
AND OF THE DISEASES OF WOMEN AND CHILDREN,
IN THE UNIVERSITY OF MARYLAND,

THIS INAUGURAL ESSAY,

The first fruits of a Medical Education completed under his direction,

IS GRATEFULLY INSCRIBED

As a testimonial of respect,

FROM his obliged friend,

THE AUTHOR.

ESSAY

ON

ECLAMPSIA OR PUERPERAL CONVULSIONS.

IN the long catalogue of diseases, incident to the human species, none so earnestly solicit the attention and skill of the physician as those which attack the female sex. The peculiar and delicate conformation of the female economy, at once subjects them to diseases often distressing in their symptoms and sometimes fatal in their consequences. At a very early period, we find the ancients engaged in devising means to arrest the progress and to alleviate the symptoms of puerperal diseases; but from the then imperfect state of our science, their laudable exertions were generally fruitless, and their expectations often disappointed. The moderns, profiting by their errors, and attributing their former want of success to an ignorance of the cause and nature of such diseases, have been induced to think for themselves; and they have formed theory and practice upon the basis of former experience and observation, which have been more conclusive and successful.

Much are we indebted to the writers of the last century, for the many invaluable improvements in the ob-

stetric department of our science, as well as to the writers of the present day. Fostered by a Smellie, a Denman, a Baudelocque, a Hamilton, a White and many others, the science could not fail to improve: and may we not come nearer to our own period and witness improvements in our own country, not less honourable to their advocates than beneficial to science and humanity?

Although medical science has boasted such able supporters, and has received such improvements, yet observation and experience teach us, that much still remains to be done.

From the numerous diseases incidental to pregnant and parturient women, I have selected Eclampsia for the subject of this Essay.

Puerperal convulsions should be regarded as one of the most formidable diseases with which we have to contend, and one with which our acquaintance is as imperfect. The term Eclampsia was adopted by some of the ancient nosologists as an appropriate name for this disease; to express, as the word implies, a sparkling of the eye, which forms one of its most prominent features; the best definition is given by Dr. Davidge, in his nosology; he defines it to be “Violent convulsions, resembling epileptic paroxysms, preceded by severe pains of the head or giddiness, sometimes by the appearance of images or visible forms, and terminated by stupor or snoring; suddenly attacking pregnant or child-bed women.” Dr. Cullen has, improperly, rejected the distinction between Eclampsia and Epilepsia, and has stricken it from his nosology. We are indebted to Dr. Hamilton, jun. of Edinburgh, for the revival of the term,—long and attentive observation has convinced him of this error of Dr. Cullen, and the propriety of retaining the distinction. It

has likewise been confounded with histerie and convulsions resulting from profuse evacuations; but from either of those it may easily be distinguished by a careful attention to the symptoms, that Epilepsia and Histeria do sometimes occur during pregnancy we admit, but no person will attempt to say that they are peculiar to that state.

By Eclampsia, then, we mean those convulsive paroxysms which occur only during gestation and parturition, or immediately subsequent to labour—it may attack one hour, one day or three days after delivery, but never more than three days. Should not the first fit prove fatal, it will soon be followed by others which will continue to recur until the powers of life are destroyed, or until the interference of art.

Eclampsia is common to all climates and seasons under the proper circumstances, attacks generally those of a melancholy temperament, and is more usually met with in a first, than subsequent, labour. Those who have a plurality of children in utero, are more liable to the disease than others. It is generally preceded by very strongly marked symptoms, which will enable the physician, who has ever seen a case, easily to recognise it; but sometimes it attacks without any premonition; this sudden access takes place more frequently during parturition than at any other period, but, in the general, its approach may be perceived for some hours before the convulsion occurs.

PREMONITORY SYMPTOMS.

The symptoms which precede Eclampsia, are generally very remarkable and numerous; but we must not expect to find them all in every case.

Lassitude accompanied by oppression and much anxiety, is generally the first discoverable symptom; a violent lancinating pain in the head, increasing as the fit approximates; sometimes instead of a pain there is a giddiness; the stomach is more or less affected; generally there is a pain or cramp-like sensation, not very unlike the globus histericus; sometimes attended with nausea and vomiting; peculiar wildness of the eye, with a sensation of fire flashing before the eyes, always precedes the paroxysm. False vision, loss of sight, tinnitus aurium, deep sighing, and low delirium are the general forerunners of this disease.

In some instances all the above symptoms have preceded an attack, but the most usual combinations are violent pain of the head, tinnitus aurium; and the wild appearance of the eyes; the affection of the stomach generally precedes convulsions, which often occur during pregnancy, but seldom those of labour; the low delirium and deep sighing are common to parturient convulsions, and those which supervene after delivery; convulsions which occur after delivery, are sometimes ushered in by violent cramps of the stomach and diaphragm, and not unfrequently end in death; Dr. Denman remarks, that a violent rigor has sometimes been followed by convulsions, more especially when it has been preceded by an irregular pulse—this premonitory symptom is more confined to convulsions which attack after parturition.

By a careful attention to those symptoms, the physician will be able to form some prognostic of the result; but, as we before observed, it may attack without shewing any of these symptoms, we must then attend more strictly to the phenomena of the paroxysms, which are so well marked that we shall never be at a loss, in any case, to

recognise the disease, and distinguish it from all others with which it has been occasionally confounded; when Eclampsia attacks thus suddenly, it generally terminates fatally. Dr. Denman relates the case of a lady seven or eight months advanced in pregnancy, who complained of a pain in her head while sitting in her chair, which was in a few minutes followed by convulsions, which ended in death.

An increased violence of those symptoms which we have spoken of as premonitory, and a convulsive twitching of the eye, apprises us of the accession of the paroxysm—the eye is thrown hastily round in a wild and frightful manner; the jaws are much agitated, attended with a contortion of the tongue and a peculiar lisping noise, as if from the retraction of the saliva; the muscles of the face, neck, trunk, and extremities soon participate in this convulsive agitation, while the head is thrown with much violence forwards, backwards, or laterally; respiration, quick, loud, and laborious; the jugular veins much distended; and the pulsation of the carotids more violent than usual;—in some cases there is an ejection of the feces and urine, and even the foetus has been expelled when the paroxysm occurred during labour.

This general convulsion is succeeded by a stiffness of the body and extremities, and locked jaws, with a discharge of froth at the mouth; the eyes protruded and fixed; face swollen and florid; respiration difficult and very laborious; while cold extremities and a cold clammy sweat admonish us of the near approach of death, which soon follows and relieves the sufferer.

Should the patient be so fortunate as to survive the first fit, and no means of cure be attempted, it will soon be succeeded by others, which will continue to recur, at

short intervals, for a longer or shorter period. During the paroxysms sensibility is suspended, but it is generally restored as soon as the fit passes off, and the patient will converse rationally and cheerfully until the next fit; if a pain in the head, or sick stomach preceded the first fit, they will continue during the intervals; the pulse is slow and depressed, sometimes hard and intermittent; the face and extremities are sometimes tumified; in many cases there is an increased sensibility; during the intervals: Dr. Hamilton, jun. gives us a remarkable case of increased susceptibility of impressions of the external senses,* this supersensation is not confined to slight attacks, but sometimes succeeds violent convulsions.

Although this disturbance of the sensorium which takes place during the paroxysms is generally quiet as soon as they cease; yet this is by no means an uniform occurrence, for, in some cases, the sensorium is so much disordered, that it does not recover its powers perfectly for several months. In the intervals, the patient is nearly insensible; breathing more or less irregular, and snoring; the face and extremities swollen and florid; countenance not unlike that of apoplexy; the pupils of the eyes more or less dilated; the pulse slow and depressed. Several very interesting cases of this kind occurred in the practice of Dr. Hamilton, junr. Denman, and almost all the writers on midwifery, have mentioned such cases, but mistook the real disease for an *apoplexy*. *Eclampsia* has been followed by mania, which has continued for months. Professor Davidge had a case which continued eleven months but eventually recovered perfectly.

* Annals of Medicine, for 1800, page 312

Nosological writers have treated Eclampsia with silence, while practical writers, who have treated of it, have advanced such obscure and contradictory opinions concerning it as serves more to perplex than instruct. We find some of them confounding it with hysteria and epilepsy, while others have contented themselves with a candid confession of their ignorance.

DIAGNOSIS.

Eclampsia has been confounded with epilepsy by the celebrated Cullen, and by almost all the writers of celebrity on midwifery. This error must have arisen from inattention to its phenomena, for the distinction is obvious and easy. It may be distinguished, 1st, from epilepsy, by the symptoms which precede the attack. The symptoms which threaten Eclampsia are very prominent and not easily mistaken. The Epilepsia generally attacks without any obvious premonition.

2dly, By the phenomena of the paroxysm. The strong workings of the tongue, the grinding of the jaws, and lisping noise made by the sudden motion of the under lip, never occurs in Epilepsia, but are always attendant on Eclampsia.

3dly, The aura epileptica never occurs in this disease.

4thly, The paroxysms are more violent, occur more frequently, and continue longer in Eclampsia than in epilepsy; in the former they sometimes occur at intervals of one hour, in the latter seldom at shorter intervals than twenty-four hours. In many cases of Eclampsia the patient is sensible and cheerful; during the intervals the pulse is always more or less depressed, or is intermitting—nothing of this is observed in epilepsy. Epilep-

sia may attack at any period of life, and under different circumstances; it seldom or never kills, and is always a chronic disease—Eclampsia is always acute, frequently destroys life, and is confined to three particular stages, gestation, parturition, and the puerperal state. What has been said will, I presume, be sufficient to point out the specific difference between the two diseases, and will justify our retaining the old term Eclampsia.

Although the distinction between Eclampsia and histeria may appear very plain and obvious, and indeed it is to the physician who has seen many cases of the former, yet it has been more frequently mistaken for histeria than for any other disease; even at this late period we have such mistakes occurring—Dr. Davidge asserts that seven-eighths of supposed hysterics, during parturition, are Eclampsia. Indeed we have abundant reason to believe that many of those cases of histeria which authors speak of as terminating fatally, were the true Eclampsia. They were led into this error by a feature in Eclampsia resembling the globus histericus, which generally characterizes histeric fits.

The premonitory symptoms will in this case, as well as in the former, discriminate between eclampsia and histeria, but independent of this, the paroxysms will point out the difference—the muscles of the face in histeria are slightly convulsed, and but seldom violent, when they are, the globus histericus is very distinctly marked, and most especially different from the sense of suffocation sometimes observed in the former disease—the wild eye, contorted tongue, grinding jaws, and hissing noise which are so very evident in eclampsia never have been observed in histeria, indeed there is but one feature of histeria, which bears the least resemblance to eclampsia, that is the sense of suffo-

cation, and when this does occur, there are so many other characters to assist us in the distinction, that we cannot easily mistake the disease, yet it is notorious that physicians at the present day, have fallen into this gross mistake. As soon as they discovered something of a suffocation which is generally an attendant in histeria, they have set themselves down quite contented, calmly waiting for the results of histeria, until death has relieved them of their patient. Regular histeric fits seldom occur during the months of gestation, and never during parturition. When they occur in gestation they do not disturb the process of labour.

This disease has likewise been confounded with a species of convulsions, which uniformly succeed to profuse evacuations per vaginam; most writers have overlooked this distinction, yet a moments attention must convince every one of this gross error: those convulsions uniformly result from evacuation of blood from the uterus, and are the harbingers of death. Were this hemorrhage always apparent, it would be sufficient of itself to mark the distinction, but the hemorrhage is not always cognizable, but sometimes recondite, and if we did not attend to the paroxysms, we might be led into very serious errors—the convulsion is always of short duration, and uniformly terminates in deliquium animi, the muscles of the face and neck are violently convulsed while those of the trunk and extremities are scarcely affected, the fits occur at short intervals, pulse very weak and feeble, sometimes imperceptible: These appearances are so widely different from what we observe in Eclampsia, that if attended to, we cannot mistake those convulsions for the regular Eclampsia, should the cause be hidden.

Having now concluded a consideration of the distinction between those diseases, with which Eclampsia may be confounded, and having portrayed the nosological characters with as much precision as circumstances would admit, we will enquire into those causes which produce the disease, and their action. I am well aware of the difficulties of this part of our subject, when so many eminent men have failed.

PREDISPOSING CAUSE.

From what has been said it must be evident, that pregnancy does predispose to this disease, the fact is so well established as to exclude every doubt: when we see causes producing effects, during the period of utero gestation, different from effects produced by the same causes, under other circumstances, we must conclude that pregnancy predisposes to the production of those effects; hence when we see a violent passion or emotion of the mind suddenly followed by Eclampsia, during gestation and parturition, or immediately subsequent to delivery, and at no other period, we must infer that this particular state of the uterine system, is the remote cause of the disease; this occurrence must be familiar to every practitioner. Dr. Hamilton junr. relates the case of a lady six or seven months advanced in pregnancy, who had a violent altercation with her husband, which was soon followed by convulsions which continued for a few hours and terminated in death: another lady in the sixth or seventh month of gestation, was prevailed on to dance, while passing the evening with a cheerful party; In the morning she was seized with symptoms threatening convulsions, which were soon followed by repeated fits, and ended in death. Were it necessary we might

here enumerate many other important facts, to establish the validity of this opinion; but it is so obvious, that any further authority must be superfluous. We shall now enquire in what manner pregnancy predisposes to this disease.

Shortly after uterogestation commences, great and important changes occur in the uterine system, the catamenial discharge ceases; a new set of laws is called into existence. The uterus becomes extremely irritable, and extends its influence to the whole economy—May not this increased irritability, dispose the system to be affected by causes acting primarily on the uterus, and secondarily on the brain? we frequently see the disease excited by a violent fit of passion in early gestation or subsequent to labour. We know that there is an intimate connection between the uterus and brain. Morbid causes acting on the former, may more or less disturb the function of the latter. Dr. Hamilton's opinion of the mechanical action of the gravid uterus on the blood vessels, preventing the due return of blood from the brain, and thus producing *Eclampsia* is I think highly questionable.

I am more disposed to reject this doctrine, from an opinion of the incapacity of the vessels of the brain to contain more blood at one time than at another. That parturient efforts may dispose to the disease I readily admit: *Eclampsia* occurring more frequently at this period, establishes this fact, the violent action of the abdominal muscles and diaphragm, must necessarily increase the circulation, The uterus at this period, may offer some resistance, and increase the disease, but it perhaps never can mechanically obstruct the circulation in the aorta, or determine the blood to the brain. Dr. Denman objects to any action

of the uterus, in the production of this disease, for says he, if the foetus were removed, convulsions should cease—the futility of this argument must be very obvious, for should we expect to cure an intermittent, simply by removing the patient from the contaminated air? or do we prevent tetanus, by removing the instrument which punctured or injured the nerve? I admit that a removal of the cause is sometimes of much importance in the cure, and could we remove the foetus without increasing the excitement, we might do good by shortening that period, in which the disease is liable to occur, and thus permit the uterus to return soon to that state in which it can no longer predispose to the disease. Mal conformation of the pelvis, diseases of the ovaria and uterus, improper management during gestation, parturition, and emotions of the mind, as additional exciting causes, may aggravate the disease. It has been asserted, that women of a melancholic temperament are more liable to the disease, than the robust and plethoric, but experience does not support this assertion; the robust and plethoric are equally the subjects of this disease. Doctor Denman supposes, that education and certain modes of living in large cities, predisposes to Eclampsia: this cannot be the case, for we find persons of every rank attacked by the disease. The atmosphere of crowded cities, has been supposed to be a very common predisposing cause, for say the advocates of this opinion, we seldom or never see persons residing in the country, attacked with the disease; I should suppose it was because they never resided in the country, or were unacquainted with the disease, for I have reason to believe, that Eclampsia is met with as frequently in the country, remote from the influence of those causes, as in the most crowded cities. Dr.

Hamilton's experience, confirms this fact: indeed Eclampsia is so frequently met with, by the medical gentlemen in the country, that we must entirely neglect those alledged causes. We admit that they may aggravate the real predisposing causes, but those circumstances, of themselves, can never constitute a predisposing cause.

EXCITING CAUSES.

They are those which invite or rouse the disease into action; they probably act primarily on the nerves and uterus, and secondarily on the brain. The most obvious of those causes, are the various passions and emotions of the mind, corporeal agitation, blows on the abdomen, struggles of the foetus in utero, violent protracted labour throes, fullness of the alimentary canal &c.

Authors have enumerated many others as acting an important part in the production of this disease, which we must reject on theoretical principles; Dr. Hamilton junr. mentions the mechanical action of the gravid uterus, as the most common exciting cause. Were this the case, we should have Eclampsia when the uterus is enlarged from any cause. Who has heard of Eclampsia in dropsy of the womb. Distension of the uterus and bladder, have been brought forward by the same author, and are equally fallacious as causes. The most prominent and frequent exciting causes are referrible to the operations of mind; grief, and terror, have generally been productive of this disease, in those unfortunate females, to whom pregnancy is a curse, instead of a blessing. Their influence is more injurious during the period of confinement. Anger has produced the disease in early pregnancy; excessive joy has been followed by Eclampsia in advanced pregnancy, and during parturition.—

That these are the sole causes we do not affirm, for Eclampsia has been produced without the obvious action of any of these; corporeal agitation in advanced pregnancy, has excited the disease in several instances. From what has been said, we would infer that puerperal convulsions are always the result of an exhaustion of the vis nervia of the brain, producing a partial debility of some of the blood vessels; hence in some cases we have an effusion of blood in the brain: that Eclampsia does terminate in an effusion, is shown by dissections; Mr. Hewson found one case of an effusion on the surface of the brain. Dr. Denman observes, that in those cases of dissection which came under his notice, there was no effusion, but considerable marks of turgescence; the right auricle and ventricle were found empty and flaccid.

I shall here detail in a brief manner, the appearances which the brain showed, after dissection in a subject which was presented to the obstetrick class in this university, during the last winter. The woman died of puerperal convulsions accompanied by a copious recondite hemorrhage, between the internal surface of the uterus, and the membrana decidua, the head of the foetus presenting naturally, and being engaged in the superior brim of the pelvis: the woman was attended by a physician of this city during her labour. The foetus appeared to be of a large size—the woman was of more than ordinary size, and appeared to be of a strong, robust, plethoric habit, much disposed to obesity.

The cranium being removed in part, and the brain examined, an evident effusion of blood was found in the ventricles, and the sinuses were full and distended—the heart, being examined, gave us the same appearances which Denman speaks of; the right auricle and ventricle being entirely empty.

From these appearances it is, therefore, evident, that Eclampsia may terminate in a rupture of the vessels of the head, and no doubt does more frequently than we suppose; yet we cannot determine this to be the most ordinary result.

PROPHYLAXIS.

We have observed that this disease is generally preceded by very prominent symptoms, which will enable the physician to recognize it. It is in this stage that we are to interfere; for by a judicious management we will frequently be able to prevent the accession of the paroxysm. The importance of thus early interfering, must be evident to every person who has ever seen a case of Eclampsia; not unfrequently the first paroxysm will prove fatal—As soon as we discover any of those symptoms which portend convulsion, we should adopt such means as the exigencies of the case may require. All stimuli which would tend to aggravate the symptoms, should be removed; the room should be kept moderately cool and airy; all noisy or talkative persons should be excluded; and all stimulating drinks and diet strictly prohibited; every thing which would have a tendency to compose and tranquilize her mind should be used. If the symptoms should continue, a copious bleeding should be resorted to, the removal of a few ounces of blood has been followed by the happiest effect. Should the symptoms not disappear v. sect. a second and a third time must be resorted to; when the stomach is much disordered, attended by frequent efforts to vomit, an emetic might be given—Dr. Denman has found an emetic of infinite advantage; in one case it succeeded in removing every symptom without the use of the lancet; but I am of opinion that emetics are inadmissible previous to the free

use of the lancet; for the action of the diaphragm and lungs must increase the circulation. They can only do good by removing erudites from the stomach, and by determining to the surface. Much care should be taken to keep the bowels open—should they be violently constipated, injection of warm water should be frequently thrown up the rectum; by this means we shall frequently be able to remove the fœces which, by long costiveness, become exceedingly hard. Denman recommends the use of the warm bath in those convulsions which occur in early pregnancy. The warm bath I should suppose injurious, unless it evacuated copiously by the skin; the use of the bath has not been succeeded by the same good effects in the hands of the physicians of our day, I should therefore reject its use. Denman recommends throwing cold water in the face, but it is inert, and cannot be productive of any good, except by abstracting heat—camphor, musk and other antispasmodics have been given, but with uniform bad effect. The lancet is our principal dependance, and all other attempts are merely auxiliary.

CURE.

From the sudden attack of Eclampsia, or from inattention to the premonitory symptoms we have more frequently an opportunity of exerting our skill in curing, than in preventing the disease. When the paroxysms have occurred, we must pursue nearly the same course recommended in the prophylaxis. During the convulsions a piece of wood should be placed between the jaws, to prevent any injury being done the tongue, and keep the patient in such a situation that she will not be able to in-

jure herself during the violence of the convulsion. As soon as the fit passes off, bleeding should be attempted. All writers agree in the utility of copious bleeding, but are much divided in their opinion of the most advantageous part from which it should be taken—some recommending the foot, others the jugular vein or temporal artery, while others depend principally on local bleedings. Some have contended, that blood drawn from the arm has been always followed by the same success, if the quantities were sufficient; indeed if we only can succeed in abstracting the proper quantity, which should be directed by the violence of the symptoms, we shall always have the same good effect, no matter whence it may be drawn; the arm being most convenient should always be preferred, but, in some cases, the superior extremities are so much swollen that we shall not be able to succeed; in this case the temporal artery may be opened with perfect safety and convenience. Should the first or second bleedings not have the desired effect, a third or a fourth should be tried. We should never think of taking one, two or three pounds, but bleed until the system gives way, and as soon as it recovers, should the symptoms continue, it should be repeated. Professor Davidge informed me that he has taken from forty to fifty ounces at one bleeding in Eclampsia; in another patient of a thin and very delicate habit, he took one hundred ounces in three days. Local bleedings are sometimes productive of good effects, when accompanied by copious bleedings from the arm; blisters have been recommended very strongly, and may be beneficial. Some recommend their application to the head and others to the arms and legs; they may act as auxiliaries to the lancet, but will never effect a cure without it. Local irritations have likewise been highly extolled, but have never been used with much advantage. Emetics have

been used by some practitioners, but we believe they never can be admissible after the paroxysms have occurred. Opium has been prescribed by many eminent writers, but it is now wholly rejected. Dr. Hamilton has given opium a fair trial, and never in one instance witnessed any advantages from its use; but, on the contrary, observes that he never has seen it used in any case which recovered. Opium is inadmissible in a full dose at any period of the disease. Dr. Hamilton, jun. has recommended very strongly the use of camphor and digitalis after the use of the lancet, but from theory we should be disposed to reject them, as long as bloodletting is indicated. Digitalis is now well known to be highly stimulant. Dr. Hamilton has used it when tumefaction was considerable with success. Camphor cannot be admissible as long as the use of the lancet is necessary. Injection of tepid water up the rectum may be used to remove the hardened feces, and much care should be taken to keep the bowels open. Uterine hemorrhage should always be encouraged; when hemorrhage has occurred in Eclampsia, the fits have ceased, or their violence much abated; but when the hemorrhage has been checked, the paroxysms have returned with their former violence; the necessity of encouraging this discharge when it has occurred, must be evident. Most of the French and British writers admonish us to remove the child as soon as practicable when convulsions occur in parturition; they view the gravid uterus as the grand cause of the mischief, and think that by speedily extracting the child the fits would cease—experience has convinced us of the impropriety of this step. Professor Davidge has removed the child apparently with perfect ease to the mother, and without perceptibly increasing the irritation, but he had the paroxysms to return with increased

violence. Delivery by art should never be attempted, unless there was some mal-formation; then the scissors and crotchet might be used, and the child removed. We should not then expect a cessation of the paroxysms; but the child, in this case, could not be removed by nature, and might, by continuing, finally prove fatal to the mother. An argument against the removal of the child is presented by the fact, that convulsions sometimes occur after delivery. The error of all writers and practitioners, has been to attend to the delivery of the child, instead of attending to the mother, and adopting such means as will prevent the injury of the brain. Except in cases where there is a disproportion between the volume of the child's head or body and the cavity through which they are to pass, Professor Davidge admonishes us to direct our attention solely to the restoration of the powers of the mother.

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